

REMARKS/ARGUMENTS

Claims 1-28 were pending and examined. The claims have been amended and canceled as noted above. Reexamination and reconsideration of the claims, as amended, are respectfully requested.

Applicants note the objection to the Declaration filed with the present application. It is respectfully pointed out that the present application was filed with an Application Data Sheet (ADS) which includes the information that the Examiner noted was absent from the Declaration. It is believed that including such information on the ADS is the proper and preferred way of submitting that information at present. Thus, it is respectfully requested that the objection to the Declaration be withdrawn.

Applicants have addressed the various claim objections as follows. The word "the" has been removed from before the first reference to "hair follicles" in claim 4, thus obviating the lack of antecedent basis. With regard to claim 8, Applicants point out that the acoustic transducer which is "positioned" in line 7 may or may not be the same acoustic transducer that was scanned to determine the depths and locations of the hair follicles in an earlier step. Thus, it is not believed that any amendment to claim 8 is appropriate. With respect to claims 9 and 10, claim 9 specifically refers to the "scanning" step and claim 10 specifically refers to the "positioning" step, so it is clear that claim 9 refers to the transducer in the scanning step while claim 10 refers to the transducer in the positioning step (where as noted before, the transducers may be the same or different). Claim 12 has been amended to clarify that it is the positioned transducer which is being focused by translating along a vertical line. Claim 13 has been amended to clarify that it is a surface of the positioned transducer in which the curvature is adjusted. The word "the" before locations in claim 8 has been canceled in order to cure the antecedent basis objection. The reference to "ablative" energy in claim 17 has been amended to read "high intensity acoustic energy" to again cure the antecedent basis objection. While Applicants do not believe that reference to "each hair follicle" in claim 17 was inappropriate, they have nonetheless amended claim 17 to recite that the energy is delivered to "the hair follicle." Claim 19 has been corrected as suggested by the Examiner. For clarity, reference to

"the location" on line 4 of claim 20 has been changed to "means for tracking a position of the transducer." The word "a" has been changed to "an" in claim 22. With these corrections, Applicants believe that all objections to the claims have been overcome.

Claims 8-10 were further rejected as being indefinite. Such rejections have been addressed as follows.

Claim 8 has been amended to recite that the hair follicles are scanned "relative to the immobilized transducer platform." It is believed that this amendment removes any uncertainty.

Turning now to the art rejections, claims 1 and 2 were rejected as being anticipated by the '677 Young publication. This rejection is moot in view of the cancellation of claims 1-3.

Claims 3-7 and 18-19 were rejected as being obvious over the combination of Young '677 in view of Watkins '790. Such rejections are traversed in part and overcome in part.

Applicants agree with the Examiner that Young in general teaches the desirability of focusing high intensity acoustic energy at hair follicles in order to achieve depilation. Young, however, provides absolutely no teaching or insight as to how such focusing can be achieved.

As described in the present application, focusing acoustic energy onto a hair follicle is not straightforward. The hair follicles are not generally located directly beneath the location on the skin at which the hair shaft emerges. Instead, the hair follicles are located at a depth and offset which is not readily apparent.

As taught in the present application, particularly in paragraphs 22-25, the present invention uses ultrasonic scanning to determine both the depths and locations of the hair follicles in an imaging step so that energy can be applied directly to the hair follicles in a subsequent energy delivery step. The Young '677 publication provides no teaching or suggestion of such a step and in fact provides no teaching whatsoever regarding how energy may actually be delivered to the hair follicles.

The Examiner, recognizing this deficiency, relies on the Watkins '790 patent to teach the use of imaging followed by therapeutic ultrasound treatment. The teachings of

Watkins, however, are specifically directed at tumor or other type of volumetric tissue ablation where the object is to locate a region central to the mass to be treated. To this end, the treating physician manually scans a transducer producing a planar image in the region of the tumor. By scanning back and forth, the physician can determine the general outline of the mass to be treated and can select a single location more or less in the center of the mass in which to direct the focused ultrasound. While this approach may be successful for tumor treatment, it would be impractical or more than likely impossible for treating hundreds or thousands of hair follicles as is contemplated by the present invention.

With this background in mind, Applicants have amended independent claim 4 to be more specifically directed at the preferred aspects of the present invention described above. In particular, claim 4 now recites that the acoustic transducer is scanned over the skin to identify the "depths and locations of a plurality of hair follicles." High intensity acoustic energy is then focused at "the depths and locations" of at least some of the identified hair follicles. No such method is described in Young '677, even when combined with the teachings of Watkins '790. For these reasons, Applicants believe that independent claim 4, as amended, as well as claims 5-7 dependent thereon are in condition for allowance.

The Examiner also apparently relies on the teachings of Watkins in rejecting independent claim 8. As set forth in the second paragraph on page 5 of the Office Action, the Examiner argues that Watkins teaches immobilizing a transducer platform and scanning the image. While this characterization is generally correct, as described above, Watkins is concerned with locating a single tumor or other tissue mass at a time, not to identifying a plurality of hair follicles, and more particularly to identifying the depths and locations of the hair follicles prior to any treatment. Thus, it is believed that Watkins, even when combined with Young '677, fails to teach the steps of claim 8, as amended, and that independent claim 8, as well as claims 9, 10, and 12-19 dependent thereon, are in condition for allowance.

The Examiner further relies on the Young '677 patent to reject independent system claim 20. Such rejection is respectfully traversed in part and overcome in part.

Claim 20 has been amended as generally described above in connection with both independent claims 4 and 8. In particular, claim 20 now sets forth that the controller acquire

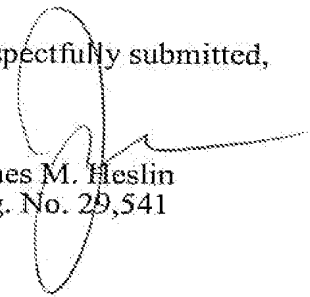
image data from the transducer "including the depth and location of each hair follicle" and for directing high intensity acoustic energy to "the depths and locations" of the selected hair follicles. As neither Young nor Watkins recognize the desirability of determining both the depth and the location of the hair follicle for achieving ablation, it is believed that independent claim 20 is allowable as well as claims 21-25 dependent thereon.

Applicants also wish to address the teachings of Masotti. Masotti was relied on as teaching the particular energy treatment parameters, including depth of focus. Applicants, however, believe that such reliance is misplaced. Instead of teaching that the ultrasonic energy be focused at a location in the range from 1 to 6 mm, as set forth in the present application, Masotti teaches that an unfocused beam extending over the entire length of the shaft of the hair from the follicle up be delivered. This is quite a different mode of energy delivery than described and claimed in the present application. Moreover, while Masotti illustrates the concept of delivering the energy along a path which coincides with the shaft of the hair, as shown in Fig. 1, nowhere does Masotti teach or suggest exactly how such alignment is to be achieved. At best, Masotti seems to suggest that the handpiece which is used to deliver the energy be somehow aimed down the shaft of the hair without saying exactly how this is achieved.

In view of the above amendments and remarks, Applicants believe that all pending claims are now in condition for allowance and request that the application be passed to issue at an early date.

If for any reason the Examiner believes that a telephone conference would in any way expedite prosecution of the subject application, the Examiner is invited to telephone the undersigned at 650-326-2400.

Respectfully submitted,


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